

TASK FORCE REPORT
TO THE
FEDERAL COMMUNICATIONS COMMISSION
CONCERNING
"CALL SPLASHING"

Submitted by: The Call Splashing Task Force
of the
Ad Hoc Operator Service Providers
Committee of the Exchange Carriers
Standards Association - Sponsored
Carrier Liaison Committee

Date: June 1, 1989

EXHIBIT A

TASK FORCE REPORT TO THE FEDERAL COMMUNICATIONS COMMISSION CONCERNING "CALL SPLASHING"

BACKGROUND, DEFINITIONS AND DESCRIPTIONS

In its Order released on February 27, 1989 (DA 89-237), resolving the formal complaint of Telecommunications Research and Action Center and Consumer Action (the TRAC/CA Order) against five operator service providers (OSPs)¹, the Federal Communications Commission (FCC) ordered the defendant companies to bring the matter of "call splashing" before the Carrier Liaison Committee (CLC) of the Exchange Carrier Standards Association (ECSA). Specifically, the Order states:

The problem of call splashing reflects the technological characteristics of the network for which a solution can best be found through the cooperation of service providers . . . on an industry-wide basis We understand that both hardware and software problems may need to be addressed in any ultimate resolution of this matter (TRAC/CA Order at 11, para. 17.)

History of OSPC

Several members of the OSP industry contacted the CLC in mid-1988. After some initial correspondence and a number of discussions, it became clear that the establishment of an industry committee to discuss OSP issues was needed. As a result, on September 15, 1988, the CLC established the Ad Hoc Operator Service Provider Committee (OSPC) with the intention of reviewing the value of this effort at the May 11, 1989 meeting of the full CLC. The CLC charge to the OSPC was to identify those issues that face the OSP industry and are appropriate for consideration by the CLC and its Associated Forums. Once identified, the issues would be referred to the appropriate CLC Forum or other industry group if required. At its May 11 meeting, the CLC agreed to continue the OSPC for two additional meetings and then review the OSPC's status at its September meeting.

¹While noting the FCC's choice of the terminology "Alternative Operator Services" (AOS) as a more prevalent acronym, this report will reflect the industry-preferred terminology, Operator Service Providers (OSPs). For the purpose of this report, OSPs are entities, which rate, route, process or in any way handle automated or live operator completed calls in a manner that places the entity in direct control of the automated or live operator function. This may include some interexchange carriers (IXCs), local exchange carriers (LECs), Customer-Owned Coin-Operated Telephones (COCOTs) and aggregators.

The first meeting of the OSPC was held on October 17, 1988, and additional meetings were held on November 17, 1988, January 4-5, 1989, and January 31, 1989. During these first four meetings, the OSPC had accepted eleven issues, including the issue of call splashing/call transfer.

A fifth meeting of OSPC was held on March 7, 1989, and at that meeting the OSPC established the Call Splashing Task Force (task force) and formulated a work plan for the group. All interested parties were invited to join the task force. The work plan was designed to be responsive to the issue of call splashing as defined by the TRAC/CA Order. On March 13, 1989, the task force held its first meeting and immediately began the process of addressing each item in the work plan.

Subsequently, the task force met on March 29-30, April 10, April 20-21, May 8-9, and May 16-18, 1989. (Appendix A lists companies which participated in any task force meeting(s).)

Work Plan of Task Force

The work plan developed by the OSPC for the task force was presented and modified at the March 13 meeting as follows:

1. Define Call Splashing
2. Identify Reason(s) for Call Splashing
3. Identify Reason(s) for Call Blocking²
4. Identify Current Procedures Being Utilized for Splashing
5. Identify and Quantify Problem(s) Call Splashing Creates
6. Identify Expected Short and Long Term Trends in the Incidence of Call Splashing
7. Identify Potential Short and Long Term Solutions and Their Relative Impact and Development Efforts
8. Report Findings to the CLC and FCC

²This item was added to the original work plan by the task force after it became clear that the issue of call blocking, while different from call splashing, had to be addressed in order to assess completely the call splashing issue.

Definition of Call splashing

In the TRAC/CA Order, the FCC described call splashing in the following manner:

Call splashing occurs when a caller requests a transfer from an AOS company operator to his preferred interexchange carrier. Since the call is handed off to the preferred carrier in the city where the AOS company's operation center and switch are located, the point from which the call will be billed will often be different from the caller's originating location, and the call may be billed at a rate different than the caller may have anticipated. (TRAC/CA Order at 3, f.n. 5.)

After review of the TRAC/CA Order, the task force further refined the definition of call splashing for the purposes of its analysis of the problem in the following terminology:

Call splashing occurs when a call transfer (whether caller-requested or OSP-initiated) results in incorrect billing because the point from which the call is rated and/or billed is different from the point from which the call originates.

Call transfer occurs when a call is handed off from one OSP to another OSP.

The task force respectfully requests that the FCC recognize this refinement in the definition of call splashing for the purpose of this report.

The task force thought it was necessary to differentiate call splashing from call transfer for two reasons. First, the task force wanted to show that calls being splashed were a subset (which as yet has not been quantified) of calls being transferred (see Breadth of Call Splashing Problem). Second, the task force wanted to clearly differentiate those call transfer processes which do not result in incorrect billing to the end user from those that do.

Definition of Call Blocking

The FCC defined call blocking in the TRAC/CA Order in the following terms:

Call blocking refers to the process of screening the calls dialed from the presubscribed telephone for certain predetermined numbers, and preventing or "blocking" the completion of calls which would allow the caller to reach a long distance telephone company different from the AOS company. (TRAC/CA Order at 3-4, f.n. 6.)

Again, in order to address the problem more clearly, the task force has refined the definition of call blocking. The task force definition is as follows:

Call blocking occurs when an end user is prevented from accessing the preferred carrier³ through alternative dialing methods (e.g., 800, 950, 10XXX+0).⁴

As with "call splashing" the task force requests that the FCC recognize this refinement in definition.

REASONS FOR CALL SPLASHING

In order to address fully the problem of call splashing and to present solutions, the task force first examined the various reasons which exist for some OSPs to splash calls. The reasons can be divided into two broad categories -- either the caller wants to transfer to another carrier or the OSP initiates the call transfer. There are several specific reasons for either case and some which pertain to both.

Caller Wants Transfer

There are four major reasons why a caller might want to transfer to a different OSP. First, a caller reaching an OSP might be unaware that the serving OSP is not the preferred OSP when initially dialing the call. Second, a caller might be unaware of how to access the preferred OSP. Third, a caller attempting to reach the preferred carrier may encounter call blocking. Finally, a caller may be unwilling or physically unable to use alternate methods for dialing the preferred carrier.

OSP Initiates Transfer

There are four major reasons why an OSP initiates a call transfer which could result in splashing. First, an OSP may be required to transfer a call because of state regulation or legislation. A few states require that callers be connected to their carrier of choice without having to redial. Further, an OSP might lack certification to handle a particular call under a state's jurisdiction.

³The "preferred carrier" or "preferred OSP" as used in this document refers to the caller's preferred carrier or OSP.

⁴Although it is not considered blocking and may affect only 5 to 10 percent of access lines nationwide, some nonconforming end offices and end offices with some adjunct devices, do not allow the end user to access 10XXX.

Second, an OSP might also transfer a call because the billing medium offered by the caller cannot be processed or is not accepted by the OSP/IXC. For example, the originating OSP might not have a billing and collection agreement with the LEC which would ultimately bill the end user for the call. In addition, the OSP might not have the necessary billing arrangement with the billed-to IXC or commercial credit card issuer. Further, the OSP might not have access to billing validation data of some LECs and IXCs. Finally, while the Bell Operating Companies are required to provide toll billing exception (TBE) data, this requirement does not extend to all LECs. Thus, TBE data may not be available to the originating OSP from all LECs. In such cases, the OSP may not wish to accept the potential toll fraud liability of not validating the billed-to number. However, it should be noted that the lack of agreements for billing and collection, billing validation data and TBE data may not be due to unavailability on the part of all LECs but rather economic considerations or the difficulties involved in negotiating agreements with numerous LECs for small volumes of calls by some OSPs.

The third reason an OSP might initiate a call transfer is that the OSP knows that the telephone which the caller is using blocks the use of alternative dialing methods and, therefore, the caller must be transferred to get to the preferred carrier.

The fourth reason that an OSP might initiate a call transfer is that the caller requests a type of service which is not currently offered by the originating OSP, e.g., some international services, busy line verification, or emergency interrupt.

REASONS FOR CALL BLOCKING

In general, blocking may occur at one of three locations: 1) at the customer premise equipment (CPE), 2) at the OSP/IXC switch or 3) at the LEC and office switch. There are various reasons for call blocking at any of these locations.

Blocking at the CPE

Some call aggregators and COCOT providers want calls blocked in order to route all traffic to a particular OSP. In addition, some OSPs, with or without the aggregator's or COCOT's knowledge, block calls at the CPE in order to route all traffic to the OSP. Another reason for call blocking at this location is that some CPE equipment is currently limited in its ability to provide alternative access dialing. Finally, some CPE is programmed to

block 10XXX calls because 10XXX sent-paid³ calls cannot be billed back to the actual caller (as in the case of a hotel PBX wherein the hotelier receives the bill long after the guest is gone).

Blocking at OSP/IXC switch

In rare cases, although the CPE may allow 10XXX to be dialed and passed over dedicated facilities directly to the OSP/IXC switch, (e.g., COCOTs connected to a remote switch node) the call subsequently may be blocked at the OSP/IXC location.

Blocking by LEC

Some LECs may block 10XXX access when a customer/aggregator orders hotel/motel lines with blocking.

CURRENT PROCEDURES USED FOR SPLASHING

Procedures used by OSPs which engage in splashing vary substantially. After discussion with represented OSPs who actually engage in this practice, the task force reached the following conclusions: Currently OSPs who splash are establishing and maintaining a switched access connection from their own switches to another OSP. At this time, it appears that the only OSP to which calls are being splashed is AT&T.

PROBLEMS CREATED BY CALL SPLASHING

While the FCC in the TRAC/CA Order specifically identified consumer problems caused by call splashing, the task force felt it was appropriate to address not only consumer problems but also problems associated with call splashing which are faced by the originating OSP, the receiving OSP, and the LEC.

Consumer Problems

Some of the consumer problems caused by call splashing are identified in the TRAC/CA Order and can be grouped into two main categories. First, some consumers have received bills which reflect inaccurate billing and/or rating of calls that have been splashed. Second, call splashing causes some consumers to be confused about the entire process of operator-assisted calling. Additionally, call splashing may result in the inappropriate application of the "0-" surcharge for operator handling by the receiving OSP.

³Sent-paid calls are those calls which are billed to the originating line, e.g., 10XXX+1 and 10XXX+0 person-to-person.

Originating OSP Problems

The originating OSPs represented on the task force have identified certain problems resulting from call splashing. First, customers are confused and dissatisfied, which affects the image of the OSP industry. In addition, OSPs receive no revenue for calls splashed to AT&T. At the same time, OSPs which splash calls sustain costs for access charges, circuits, switching, and operator handling on these non-revenue generating calls. Finally, the OSPs may pay commissions to aggregators on such calls even though AT&T receives the billable traffic.

Receiving OSP Problems

As the only OSP to which calls are currently splashed, AT&T has identified a number of problems caused by its receipt of splashed calls. First, AT&T customers are confused and frustrated by being unable to reach AT&T or by receiving an AT&T bill, reflecting an incorrect originating location, and therefore they perceive AT&T as being somehow responsible for these problems. This causes a diminished image of AT&T as a consistent and quality provider of operator services. In addition, there are increased costs associated with responding to customer billing questions and general customer confusion regarding which company handled the customer's call. AT&T also finds that call splashing can create a misclassification of jurisdiction on the calls that are splashed. Furthermore, AT&T incurs increased operator handling costs and the potential for increased toll fraud. Finally, call splashing causes a higher uncollectible rate as well as customer-perceived degradation of transmission quality and call processing delay.⁶

LEC Problems

Those LECs represented on the task force identified the following problems that they face as a result of call splashing. These include customer confusion and increased customer complaints regarding billing for OSP/IXCs. In addition, they face increased billing inquiry costs, and customers may be dialing "0-" to seek answers to their confusion, thus imposing additional operator handling costs on the LECs.

⁶The task force addressed the issue of delay in call processing as a result of splashing and determined that similar delay is encountered with both call transfer and call reorigination. While the task force recognizes the consumer inconvenience, it determined that such call processing delays cannot be prevented when more than one OSP is involved in completing the call.

Aggregator Problems

Call splashing may cause problems for traffic aggregators; however, no attempt is made here to speak for those entities since they were not represented on the task force.

BREADTH OF CALL SPLASHING PROBLEM

It was the consensus of the task force that a number of OSPs are splashing calls today. The LECs and AT&T do not splash calls. The task force concurred that quantification of the magnitude of the problem is needed. The task force will furnish to the FCC the results of an OSP industry survey which will attempt to quantify the amount of call splashing attributable to each reason.

EXPECTED SHORT AND LONG TERM TRENDS IN THE INCIDENCE OF SPLASHING

As a result of various events and developments in the industry, the incidence of splashing may change, independent of any external "solutions" specific to the problem of splashing itself.

In the short term, payphone presubscription may be expected to increase the volume of call splashing due to increased volume of calls handled by OSPs which splash as well as certain presubscription requirements. To the extent that the TRAC/CA Order prohibits blocking, blocking should decrease and calls splashed due to the inability of the end user to redial or OSP to reoriginate should diminish.

Over the long term, various factors can be expected to affect the amount of splashing which occurs. Following initial implementation of payphone presubscription, customers will become more knowledgeable about how to reach preferred carriers, thus diminishing the need for caller-requested splashing. In addition, as equipment manufacturers are able to provide modifications to unblock their CPE, the incidence of call splashing should also decrease because alternate access methods will become available. Greater access to billing agreements and arrangements will also reduce the need for OSPs to splash.

POTENTIAL SOLUTIONS

The task force has identified eleven potential solutions to the problem of call splashing. Each solution includes the positive and negative impacts as well as information regarding approximate costs, cost elements, and timelines necessary to implement the solution. However, it is difficult to evaluate proposed solutions absent adequate estimation of the amount of call splashing attributable to each reason. For those solutions

which specifically identify AT&T, it should not be construed that the solutions apply solely to AT&T.

(1) Eliminate Call Blocking

This solution requires that all phones served by OSPs allow dialed access to alternative carriers. The most common alternative dialing methods are 10XXX-0, 800, and 950.

Positives:

1. Allows customers to reach their preferred or alternate long distance carrier.
2. If combined with instructions to hang up and redial and carrier access or dialing instructions, will provide (where state regulations allow) for:
 - a. customer education;
 - b. correct rating, jurisdiction, and no inappropriate application of operator handling "0-" surcharge;
 - c. elimination of unnecessary switched access connections and associated costs, thereby
 - improving overall network efficiency, and
 - preventing degradation of transmission quality.
3. Responsive to legislative and regulatory concerns.
4. Conforms with public expectation of dialing plans in equal access areas.
5. There are no known technical reasons for blocking 800 and 950 access.

Negatives:

1. Unblocking of 10XXX: Implementation of 10XXX unblocking in the call aggregator market will involve all segments of the industry including equipment manufacturers and call aggregators. There are a variety of costs and technical changes needed to minimize potential fraud and uncollectibles.

Unrestricted unblocking will expose both the IXC/OSP and/or aggregator to potentially massive losses. The following restrictions to total unblocking will mitigate these losses.

- a. Blocking 10XXX 1+ dialing should be permitted to prevent losses due to sent-paid billing.
- b. Use of originating line screening (OLS) codes on 10XXX 0+ dialing will reduce losses due to attempts to place improper sent-paid calls via operator systems.

NOTE: Originating line screening (OLS) refers to codes associated with originating lines which indicate the presence of billing restrictions on that line. The presence or absence of these codes are signalled to the operator system via the Automatic Number Identification (ANI) digit stream. Two of the ANI digits are known as the II (for Information) digits. II digits 06 normally indicate that the originating line is a hotel. II digits 07 indicate special operator handling is required and may identify other originating line billing restrictions such as those associated with prison lines, COCOTs, hospitals, other institutions, etc.

All equal access end offices are capable of generating the proper II digits. These digits normally trigger a search into a software table in the operator systems currently used by some OSPs. If the originating number is found in the table, the billing restrictions associated with that particular line can be determined.

Per line backup data may not be uniformly available at present. In addition, these data may only be available to the carrier to whom the line is presubscribed. Some OSPs do not currently have systems that can use the II digits and associated line screening information and need to have them developed. Also, LECs not currently providing the associated OLS information will need to make these data available to all OSPs/IXCs. Some LECs, including all Bell Regional Holding Companies, indicated plans to make these data available to all OSP/IXCs.

Absent availability of "per line" OLS data, implementation of restrictions, whenever ANI II digits 06 or 07 are transmitted, could reduce sent-paid calling losses. This would negatively affect the premise owner if administrative calls are made over these same lines. In some limited circumstances, sent-paid calling may be denied when it should be allowed.

2. Until consumers are educated on how to reach their preferred carrier, they will be inconvenienced by needing to dial a call twice when instructed to hang up and redial.
3. Aggregators may need to modify or replace their CPE in order to provide 10XXX routing, screening, and blocking of 10XXX+1.

Costs:

1. Modifications to or replacement of CPE.
2. Modifications to OSP/IXC systems.
3. Development and maintenance of OLS database(s).

NOTE: The task force discussed expanded use of ANI information digits to convey specific billing restrictions, e.g., collect-only. This could significantly diminish the need for OSPs to establish national OLS databases. However, negatives associated with this were discussed. These include:

- LEC cost to develop and deploy this additional capability in every end office and existing operator systems (hardwired or hardcoded in firmware).
 - Use of a finite numbering resource for a limited application.
 - Long term nature of the solution given lack of the ability to add new II digits; i.e., no LEC capability for new II assignments in all existing end office switches and operator systems.
4. OSP/IXC costs of interfacing with aggregators to implement unblocking procedures.
 5. Possible additional trunking costs for call aggregators and OSPs.

Timelines:

Although certain aspects of this solution can be implemented immediately, other aspects are longer term. For example, some CPE can be unblocked today, some could have adjunct equipment added, and some will have to be either totally replaced or undergo development.

Also, most OSPs need to upgrade their systems to use OLS data. While the technology is currently available, the time needed to deploy these systems is unknown.

(2) Call Transfer With Signalled ANI

An originating OSP could transfer a call and signal the originating ANI and II digits to a receiving OSP. The transfer could be made either to the receiving OSP operator system location closest to the OSP switch from which the call is transferred or to the receiving OSP operator system serving the originating telephone.

Positives:

1. Allows transferred calls to be correctly rated and billed to the end user by the receiving OSP.
2. Avoids consumer inconvenience of redialing and also satisfies some state requirements prohibiting redialing.
3. Could completely solve the billing problems associated with splashing, independent of other solutions.

Negatives:

1. Does not resolve originating OSP problem of cost related to access, circuits, etc.
2. Increased OSP costs for separate trunk groups.
3. OSP switch development necessary to deliver ANI to receiving OSP in required format.
4. Limitations in AT&T's operator systems:
 - a. Systems are unable to receive 10 digit ANI; thus, there will have to be one trunk group for each NPA being transferred.
 - b. TSPS can only serve a maximum of four originating states and/or eight originating NPAs; OSPS (SESS switch) can only serve a maximum of fourteen originating local access and transport areas (LATAs).
 - c. A customer transferred from a LEC coin phone who wishes to pay with coins would not be able to do so because the transferred call would not be carried on a trunk group which permits coin control signalling.
 - d. TSPS presents real time rating limitations in that only eight rate schedules are available and are at or near capacity today.

- e. AT&T would need OLS data for the entire nation at every operator system.
 - f. AT&T has 48 different regulated intrastate rate schedules. Each of AT&T's billing agents would need to maintain all 48 intrastate rate schedules to properly rate calls transferred from another LEC area.
5. If an originating OSP complies with necessary parameters, transferred calls could technically be handled by AT&T in spite of the restrictions on AT&T systems. This could increase originating OSP costs to maintain separate trunk groups to AT&T's operator systems as well as switch development costs for the OSP to send AT&T correctly formatted ANI.
 6. Even though the end user bill is correct, the rate does not reflect the transport service provided by the receiving OSP.
 7. Requires forced interconnection arrangements between competing OSPs.
 8. Potential transmission degradation.

Costs:

1. In order to allow an OSP transfer to the AT&T system nearest the OSP, TSPS would have to be completely revamped, requiring significant costs and time, but TSPS is being phased out over the next two to three years anyway.
2. If the OSP transfers to the AT&T system serving the originating telephone, the transferring OSP will need to establish and maintain dedicated trunk groups for each served NPA and initiate switch and new system development. Additionally, the originating OSP may need to upgrade existing network configurations to insure transmission quality on longer haul circuits.

Timelines:

If AT&T system modifications could be undertaken, implementation is estimated at 2 to 4 years. Even without AT&T system modifications, it is unknown how long the required industry standards and OSP switch development will take.

(3) Call Transfer With Oral ANI

An originating OSP operator could recite to the receiving OSP operator the originating ANI (and other significant information) of the call being transferred.

Positives:

1. Allows transferred calls to be correctly rated and billed to the end user by the receiving OSP.
2. Avoids consumer inconvenience of redialing and also satisfies some state requirements prohibiting redialing.
3. Could completely solve the billing problems associated with splashing, independent of other solutions.
4. Could be used as an interim solution while more technically sophisticated solutions are under development.
5. Provides minimal barriers to entry for new OSPs entering the market.

Negatives:

1. Labor intensive for operator handling and bill processing.
2. Automated checks for OLS are not available.
3. Industry standard methods and procedures will need to be developed.
4. Human intervention in passing information could result in misbilling and/or fraud.
5. Increased call processing time as a result of manual handling.
6. Does not resolve originating OSP problem of cost related to access, circuits, etc.
7. AT&T has 48 different regulated intrastate rate schedules. Each of AT&T's billing agents would need to maintain all 48 intrastate rate schedules to properly rate calls transferred from another LEC area.
8. Requires forced operational arrangements between competing OSPs.

9. Potential transmission degradation.
10. Even though the end user bill is correct, the rate does not reflect the transport service provided by the receiving OSP.

Costs:

1. This solution would require fully manual operator handling of every transferred operator call, increasing AT&T operator worktime and associated labor costs by 375 percent.
2. Increased billing costs for handling manual tickets.
3. The transferring OSP's operator worktime and associated labor costs would also increase.
4. The originating OSP may need to upgrade existing network configurations to ensure transmission quality on longer haul circuits.

Timelines:

Could be done relatively quickly.

(4) Consumer Education

Combined with the elimination of blocking, effective consumer education would teach customers about the availability of alternatives and how to reach their preferred OSP from any phone, whether that phone is presubscribed to the customer's preferred OSP or to another OSP.

Positives:

If combined with the elimination of blocking, effective consumer education would:

1. Teach consumers to reach their preferred carrier using the appropriate dialing method initially, thus eliminating the need for a caller requested transfer.
2. Reduce customer service and operator inquiries for dialing instructions.
3. Reduce costs inherent in transfer.
4. Contribute to greater realization by consumers of competition in the OSP marketplace.

Negatives:

1. May take a long time to change all customer dialing habits. However, certain end user groups (e.g., frequent travelers) may adapt to the use of alternative dialing habits more quickly.
2. Must be used in conjunction with other solutions to reduce splashing.
3. If implemented without elimination of blocking, could lead to increased customer confusion.

Costs:

Costs will vary depending on each IXC/OSP's business decision as to which media will be used to disseminate the dialing information for that IXC/OSP.

Timelines:

While advertising may be implemented quickly, it will take time for some end users to change their dialing habits. Also, this solution is dependent on the timeline for eliminating call blocking.

(5) Establishment of Billing & Collection Agreements

Some independent exchange telephone companies may not offer or currently are unable to provide billing and collection agreements to all IXCs/OSPs. In addition, some OSPs have chosen not to pursue agreements with all LECs for economic reasons and/or the difficulties involved in negotiating agreements with numerous LECs for small volumes of calls. The establishment of these agreements would permit OSPs to bill calls for all service areas.

Positives:

1. Originating OSP can handle most calls and bill them correctly; however, the adequacy of this solution depends on the availability of corresponding validation agreements.
2. Would reduce OSP-initiated call splashing.

Negatives:

1. May be burdensome to consummate billing agreements with every independent LEC.

2. Some LECs are not required to provide billing and collection agreements.
3. Some LECs do not currently have the technical capability to provide billing for multiple IXC/OSPs.

Costs:

1. Expense of obtaining billing and collection agreements with independent LECs.
2. Development and/or modification of billing systems by the independent LECs to allow for multiple IXC/OSP billing.
3. Inefficiency of processing small numbers of messages to small LECs where OSP may not deliver minimum volume required by the LEC.

Timelines:

Currently, some LECs are not required to or are unable to provide billing and collection agreements. The task force was therefore unable to estimate a timeline.

(6) Establishment of Billing Validation Agreements

Some independent exchange telephone companies may not offer or currently are unable to provide either billing validation data or validation service to all IXCs/OSPs. The establishment of these agreements would permit OSPs to validate LEC calling cards and provide TBE data for all service areas.

Positives:

1. OSPs will be able to accept independent LEC calling cards from end users and bill them correctly; however, the adequacy of this solution depends on the availability of corresponding billing agreements.
2. Will reduce OSP-initiated call splashing.

Negatives:

1. Some LECs are not required to provide validation data.
2. Some LECs may not currently have the ability to provide validation data and/or service to all OSPs.

Costs:

Expense of obtaining validation data or service agreements with independent LECs.

Development of data base and/or data transfer by some LECs.

Timelines:

Currently, some LECs are not required to or are not able to provide validation data. The task force was therefore unable to estimate a timeline.

(7) Establishment of 800 and/or 950 Access by IXC/OSPs

IXCs/OSPs could provide 800 and/or 950 end user access to their operator services to allow alternative dialing where 10XXX blocking continues.

Positives:

1. Allows customers to reach their preferred or alternate OSP/IXC. In addition, this service would be available in non-equal access areas and where 10XXX is blocked.
2. If combined with instructions to hang up and redial and carrier access or dialing instructions, will provide (where state regulations allow) for:
 - a. customer education over time;
 - b. correct rating, jurisdiction, and no inappropriate application of operator handling "0-" surcharge;
 - c. elimination of unnecessary switched access connections and associated costs, thereby
 - improving overall network efficiency, and
 - preventing degradation of transmission quality.
3. Familiar dialing concept currently used for access by a number of IXCs.
4. Aggregator CPE can currently accommodate 800/950 dialing.

Negatives:

1. The following negatives were identified as applying to AT&T:
 - a. Requires one trunk group per NPA;

- b. AT&T 800 database lacks the capability to forward ANI to the operator services system;
 - c. 0- calls only, i.e., calling customer cannot dial the called number;
 - d. 0- calls result in additional surcharge under AT&T interstate tariff;
 - e. Lack of ANI results in increased toll fraud due to no OLS, no terminating line screening, and no third number verification from public telephones;
 - f. Would require new tariffs in every jurisdiction based on single point rating per originating NPA;
 - g. Single point rating is less accurate than rating based on V & H coordinates;
 - h. Requires triple circuit routing in AT&T network;
 - i. Requires more dialed digits than 10XXX;
 - j. Requires billing system modifications;
 - k. Longer post dial delay;
 - l. Without ANI, cannot accurately determine intra-versus interLATA and therefore correct "ownership" of call;
 - m. Increased labor costs due to manual operator entry of called number, calling card number, etc.
2. Until AT&T customers are educated on how to reach their preferred carrier, they will be inconvenienced by needing to dial a call twice when instructed to hang up and redial.

Costs:

1. AT&T estimates that it would cost \$20-50 million for AT&T to implement this solution.
2. Increased call handling costs.

Timelines:

AT&T estimates that it would take one to three years for AT&T to implement this solution.

(8) Call Reorigination at CPE

CPE located on aggregator premises or within COCOTs could be modified to reoriginate the call to an alternative OSP when the originating OSP signals the CPE.

Positives:

1. Allows transferred calls to be correctly rated and billed by receiving OSPs.
2. Avoids consumer inconvenience of redialing and also satisfies some state requirements prohibiting redialing.
3. Could completely solve the billing problems associated with splashing, independent of other solutions.
4. Avoids any transmission degradation.
5. Reduces originating OSP problems of unnecessary switched access connections and associated costs.

Negatives:

1. Requires aggregators or OSPs either to modify or replace existing CPE and/or COCOTs or to install peripheral equipment such as dialers.
2. Requires modification of some OSP systems to provide signalling.
3. With current technology, dialers are subject to equipment failure.
4. End users may be subject to hearing reorigination tone of variable and unpredictable levels.

Costs:

1. Costs of replacing dialers or modifying CPE/COCOTs to accept reorigination tone.
2. Costs of developing or modifying OSP switch to generate reorigination tone.
3. Cost of maintaining dialers in the field.

Timelines:

The timeline is dependent on the modification of CPE/COCOTs, the availability of dialers, and the time required by OSPs to modify their systems.

(9) Call Reorigination at LEC switches

End office/access tandem equipment could be modified to reoriginate the call to an alternative OSP when the originating OSP signals the originating LEC end office/access tandem.

Positives:

1. Allows transferred calls to be correctly rated and billed by receiving OSP.
2. Avoids consumer inconvenience of redialing and also satisfies some state requirements prohibiting redialing.
3. Could completely solve the billing problems associated with splashing, independent of other solutions.
4. Avoids any transmission degradation.
5. Reduces originating OSP problems of unnecessary switched access connections and associated costs.

Negatives:

1. Requires modification/replacement of all LEC end offices and equal access tandem switches, including signalling protocol.
2. Requires modification of OSP systems to provide signalling.
3. Unless this solution is implemented in every LEC end office, it would be only a partial solution.
4. Potential of end user hearing reorigination tone.
5. Possibility that allocation of costs may result in associated costs of development and deployment not being borne by cost-causer.
6. Automatic reorigination without end user awareness may result in abandonment of calls due to unexplained delay.
7. The OSP to whom the call is transferred would be required to have a point of presence in every LATA.

Costs:

It is dependent on the detailed technical requirements whether adjunct processors could be used or if feature development would be required in each end office and access tandem. The estimated nationwide cost varies from \$150 million to \$5.5 billion for end office and access tandem feature development.

Timelines:

Current estimate is four and half to seven years (including standards, technical requirements, feature specifications, vendor development, verification testing, and deployment).

(10) OSP Subcontract

OSPs would subcontract operator services to other OSPs, providing for one OSP to handle the call while the other OSP bills it based on billing detail furnished by the OSP who handled the call.

Positives:

1. Allows calls to be correctly rated and billed.
2. Could completely solve the billing problems associated with splashing, independent of other solutions.
3. Avoids consumer inconvenience of redialing calls.
4. Facilitates call sequencing (use of "#" for subsequent calling) for the end user.

Negatives:

1. Requires forced operational arrangements between competing OSPs.
2. Potential transmission degradation.
3. Requires billing system modifications.

Costs:

1. Costs associated with negotiating business arrangements and contracts.
2. Costs of billing system software changes (handling OSP and/or billing OSP).
3. Transport costs of originating transmission facilities.

Timelines:

Undetermined, based on consummation of business arrangements and development of billing system modifications.

(11) Call Transfer with Call Detail

Originating OSP would transfer a call to the receiving OSP over previously identified access lines. The receiving OSP would process the call in the normal manner, including validation, and set the billing record aside. The originating OSP would subsequently send its call detail record of the transferred call to the receiving OSP who would then match the records and extract the originating ANI.

Positives:

1. Allows transferred calls to be correctly rated and billed to the end user by receiving OSP.
2. Avoids consumer inconvenience of redialing and also satisfies some state requirements prohibiting redialing.
3. Could completely solve the billing problems associated with splashing, independent of other solutions.

Negatives:

1. Requires forced operational arrangements between competing OSPs.
2. Potential transmission degradation.
3. Requires billing system modifications, to strip the receiving OSP tape, to perform matching function and to rate transferred calls. Also, requires modifications to originating OSP billing systems.
4. Increased potential for toll fraud.
5. Receiving OSP may unknowingly handle an unauthorized intraLATA call.
6. The increased complexity of the billing process will increase the potential for billing errors.
7. Even though the end user bill is correct, the rate does not reflect the transport service provided by the receiving OSP.

Costs:

1. No estimate is currently available for the cost of AT&T billing system modifications, whether performed by its agents or its own future billing system.
2. Originating OSP may need to upgrade existing network configurations to ensure transmission quality on longer haul circuits.

Timelines:

No estimates are currently available of time required for billing system modifications.